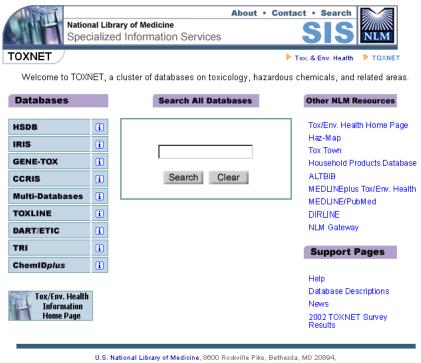


TOXNET:Toxicology & Environmental Information

http://toxnet.nlm.nih.gov/



U.S. National Library of Medicine, 8600 Rodoville Pike, Bethesda, MD 20894 National Institutes of Health, Department of Health & Human Services Copyright and Privacy Policy, Freedom of Information Act, Accessibility Customer Service: Tehip Quebeh.nlm.nih.gov. Last modified on May 8, 2002.

National Network of Libraries of Medicine, South Central Region Houston Academy of Medicine-Texas Medical Center Library 1133 John Freeman Blvd. Houston, TX 77030

NLM Contract No.: N01-LM-1-3515

TOXNET (Toxicology Data Network)

http://toxnet.nlm.nih.gov/

- A FREE web-based integrated system of toxicology and environmental health databases
- Information on toxicology, environmental health, hazardous chemicals, toxic releases, chemical nomenclature, and specialty areas such as occupational health and consumer products
- Maintained by National Library of Medicine (NLM), Specialized Information Services (SIS)

TOXNET Data Files

Hazardous Substances Data Bank (HSDB)

- From NLM
- Toxicology of potentially hazardous chemicals
- Information on human exposure, industrial hygiene, emergency handling procedures, environmental effects, regulatory requirements, and related areas
- Data from books, government documents, technical reports and selected primary literature. Some data is compiled expressly for HSDB
- Over 4600 chemical records
- Peer reviewed by the Scientific Review Panel

Chemical Carcinogenesis Research Information System (CCRIS) -

- From the National Cancer Institute (NCI)
- Data and information on carcinogenicity, mutagenicity, tumor promotion, and tumor inhibition test results
- Data derived from studies cited in primary journals, current awareness tools,
 NCI reports, and other special sources
- Over 8000 chemical records
- Reviewed by experts in carcinogenesis and mutagenesis

Genetic Toxicology (GENE-TOX)

- From the U.S. Environmental Protection Agency (EPA)
- Note: GENE-TOX not updated since January 2000
- Mutagenicity test data
- Data Structure assay type, assay code, results, panel report, reference
- Over 3000 Chemical Records
- Peer reviewed

Integrated Risk Information System (IRIS)

- From the EPA
- Information on EPA carcinogenic and non-carcinogenic health risk assessment and regulatory information
- Over 500 chemical records
- Scientifically reviewed by groups of EPA scientists and represent EPA consensus
- Also contains literature references

Searching TOXNET Data Files

- Each TOXNET Data File may be searched or browsed individually or by using the Multi-Database option
- NOTE: HSDB, IRIS, CCRIS and GENE-TOX employ very similar search engines. Search techniques for Multi-Databases can be used for the individual Data Files

Multi-Databases

• Integrated search of HSDB, IRIS, CCRIS, and/or GENE-TOX

Browsing Multi-Databases

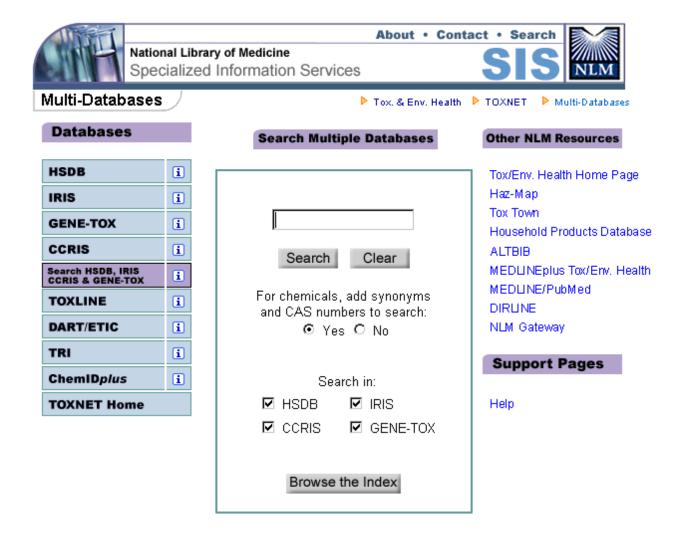
- Browse the Index allows browsing by terms, CAS number or chemical name
- **Browse Results** displays a segment of the index with the best match first and in which data file
- To view the results in each data file, click the number of hits next the data file name



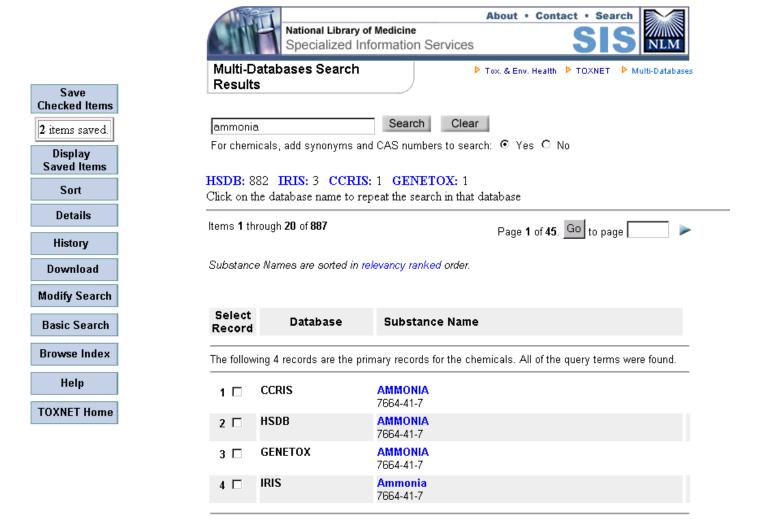
Check to Select	Number of Records	Index Term
	3	AMMONIA [hsdb=1] [ccris=1] [genetox=1]
	1	AMMONIA, ANHYDROUS [hsdb=1]
	1	Ammonia aqueous [hsdb=1]
	1	AMMONIA GAS [hsdb=1]
	1	AMMONIA, MONOHYDRATE [hsdb=1]
	1	Ammonia sesquicarbonate [hsdb=1]
	1	AMMONIA SOLUTION [hsdb=1]
	1	AMMONIAC (FRENCH) [hsdb=1]
	1	AMMONIACA (ITALIAN) [hsdb=1]
	1	AMMONIAK (GERMAN) [hsdb=1]
	1	AMMONIATED MERCURIC CHLORIDE [hsdb=1]
	1	AMMONIATED MERCURY [hsdb=1]

Searching Multi-Databases

- Search by chemical names, other terms (including multiple terms), and numbers (including CAS numbers)
- Select databases to search by checking or unchecking the box(es)

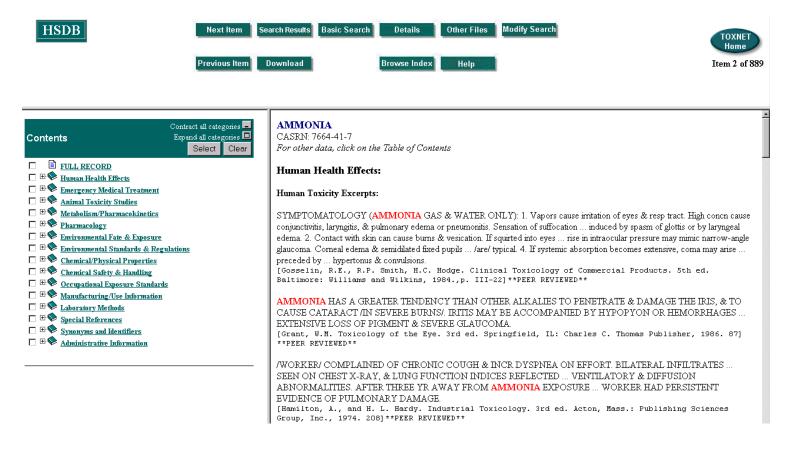


- Search results display a summary of the number of records retrieved in each database
- Results display best matches first
- Saved Checked Items option allows you to display selected records only
 - Check box next to record number(s)
 - Click Saved Checked Items
 - Click **Display Saved Items** to view only the selected records
- Sort allows selected records to be resorted in ascending or descending order.
 TIP: This is best used with Saved Checked Items
- **Details** displays the search strategy
- History displays your recent searches
- Download allows some or all of the records retrieved to be downloaded in brief or full format. TIP: This is best used with Saved Checked Items
- Modify Search and Basic Search returns you to the Basic Search screen
- Browse Index opens the Browse the Index search screen



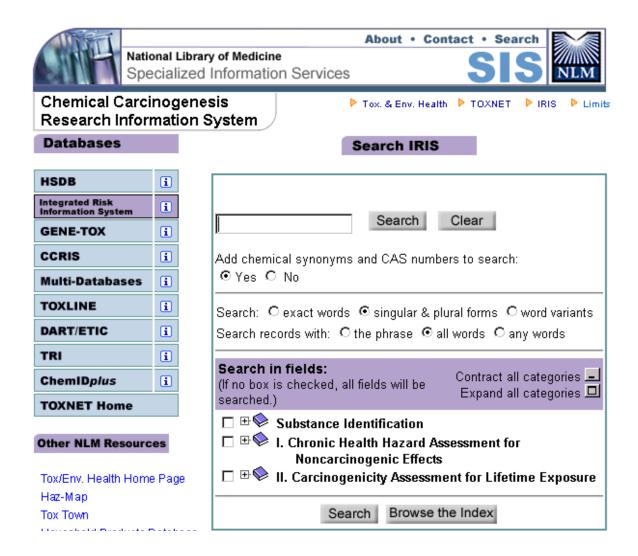
Full Record Display

- The Full Record Display for each database has similar navigation buttons on the top of the screen
- Next Item and Previous Item allows moving from record to record
- Search Results returns to the Brief format results
- Other Files allows the search to be conducted in other TOXNET files



- Each database has the **Table of Contents** in the left frame and the full record in the right frame
- The search term(s) is highlighted in red in the full record
- The Table of Contents includes quick links to the specific record fields and categories

 NOTE: Individual database search screens allow term(s) to be searched only in these fields or categories



- Boolean searching using AND, OR, and NOT is available
- Truncation using the asterisk (*) is allowed at the end of a word and will search any number of characters
- Phrase searching by quotation marks is allowed

Practice Exercise

1. Can the ingestion of hydroquinone be fatal?

2. What is sodium benzoate used for?

TOXNET Literature Files

TOXLINE (TOXicology Literature onLINE)

- From NLM
- Bibliographic information on pharmacological, biochemical, physiological, environmental, and toxicological effects of chemicals/other agents on living systems
- Coverage 1953 to present (and some earlier)
- Over 3 million citations
- 2 components: TOXLINE core and TOXLINE Special
 - TOXLINE Core searchable via PubMed (toxicology subset)
 - Standard toxicology journals
 - o TOXLINE Special searchable via TOXNET
 - Special journals, technical reports, research projects, and archival collections

Developmental and Reproductive Toxicology/Environmental Teratology Information Center (DART/ETIC)

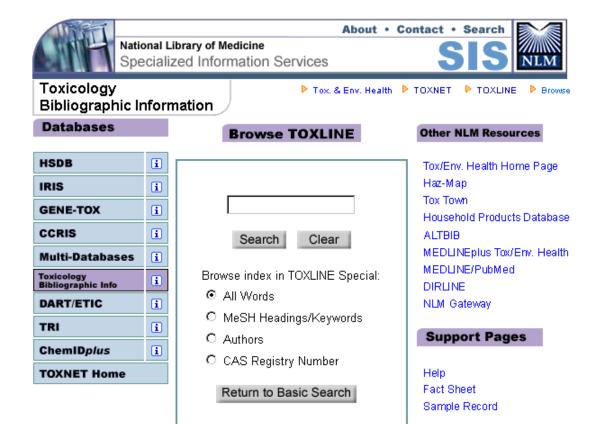
- Managed by NLM and funded by the EPA, the National Institute of Environmental Health Sciences (NIEHS), the National Center for Toxicological Research (NCTR) of the Food and Drug Administration (FDA), and NLM
- Bibliographic information on teratology and other aspects of developmental and reproductive toxicology
- Coverage 1953 to present
- Over 100,000 citations
- 2 components DART Core and DART Special
 - DART Core searchable via TOXNET
 - links to PubMed citations
 - DART Special searchable via TOXNET
 - non-PubMed citations including meeting abstracts, technical reports, and non-MEDLINE journals

Searching TOXNET Literature Files

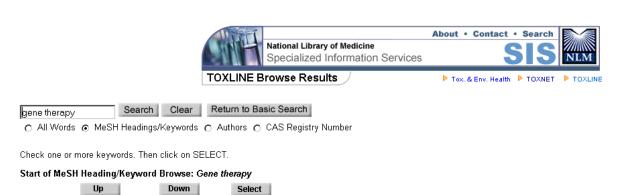
- Searching options include the Basic Search, Browse the Index and Limits Search
- NOTE: TOXLINE and DART employ very similar search engines. All search techniques for TOXLINE can be used for DART

Browsing TOXLINE

 Browse the Index allows browsing by terms, MeSH headings or Keywords, Authors or CAS number



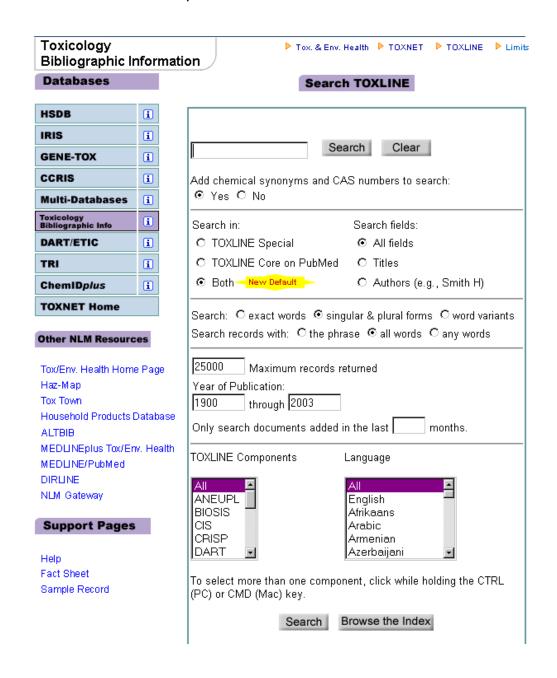
- Browse Results displays a segment of the index with the best match first
- To view the term(s), check the corresponding Check to Select box and click the Select button
- The **Up** and **Down** buttons allow you to view more of the Index



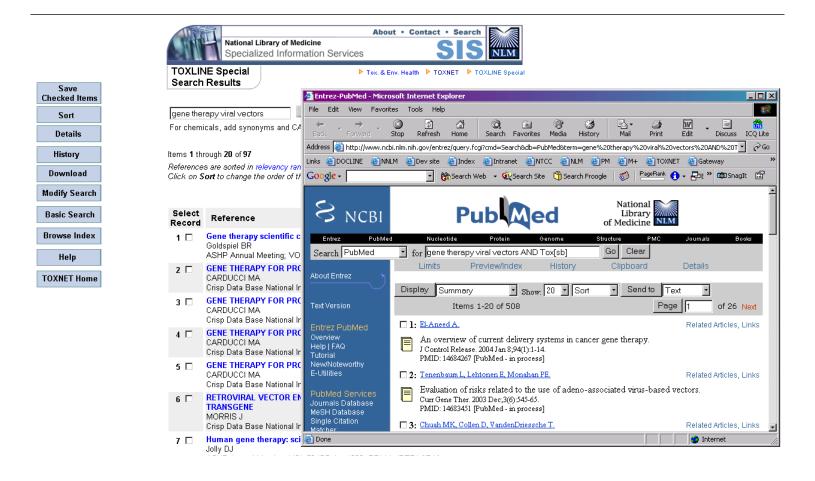
Check to Select	Number of Records	Index Term
	731	Gene therapy
	1	gene therapy compounding
	7	Gene Therapy/*METHODS
	1	Gene Therapy/METHODS
	1	Gene transfection
	29	Gene transfer
	1	Gene Transfer Techniques
	1	gene variant identification
	1	gene variants
	1	gene vectors
	2	Genechip
	13	general
	2	General Accounting Office

Searching TOXLINE

- Search by chemical names, other terms (including multiple terms), and numbers (including CAS numbers)
- Click on the **Limits** button to limit your search. Type of **Limits** include
 - Title or Author fields
 - Searching exact words or variants
 - o Maximum number of results retrieved
 - Year of publication
 - Search by languages
 - TOXLINE components



 By default, results retrieve TOXLINE Core in PubMed and TOXLINE Special in TOXNET. You may limit your search to retrieve from either component



Full Record Display in TOXLINE Special

- Full records include the citation plus abstract
- Search term(s) are highlighted in red
- **Related Records** searches for results similar to the selected record

Gene therapy and pharmacy practice. Part 1

Authors:

Manuel SM

Related Records

Search Results

Download

Basic Search

Browse Index

Modify Search

Details

History

Help

TOXNET Home

Author Address: Univ. of Kentucky Coll. of Pharm., Lexington, KY, USA

Source: Am. Pharm.; VOL NS34 ISS Nov 1994, P14-15, (REF.)

Abstract:

IPA COPYRIGHT: ASHP The concept of **gene therapy**, the various delivery modes being developed, and their potential impact on pharmacy practice are discussed, including **viral vectors**, adenovirus **vectors**, and other **viral vectors**.

Keywords:

Gene therapy

research development Drug administration development Pharmacy practice impact

Language: English

International Standard Serial Number: 0160-3450

Coden:

AMPHD

Entry Month: December, 1995

Classification Code: 1911

Year of Publication: 1994

Secondary Source ID: IPA/95/1087276

Practice Exercise

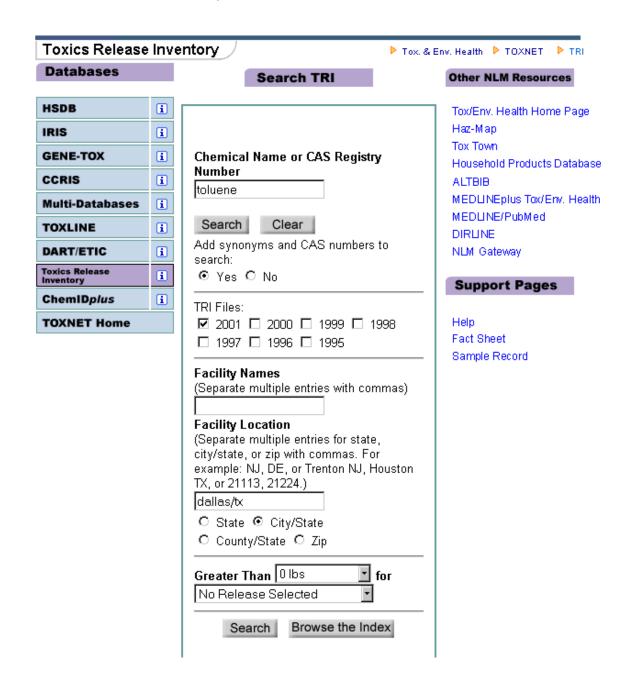
1. Has imipramine in the treatment of enuresis ever been found to be poisonous?

2. What is the effect of ciguatera poisoning on a fetus?

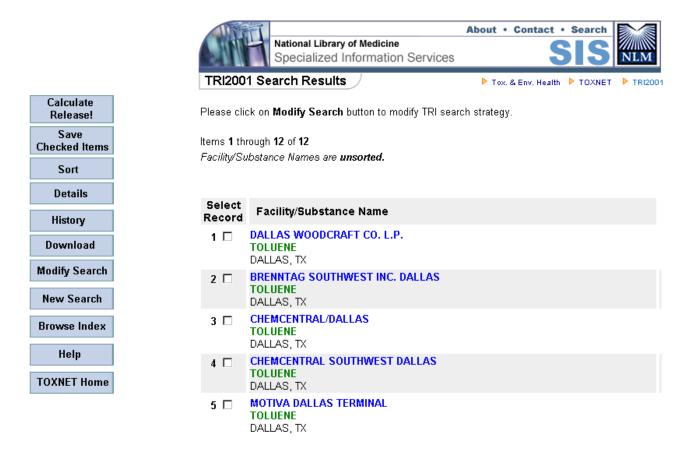
TOXNET Specialty File

Toxics Release Inventory (TRI)

- From the EPA
- Annual estimated releases of toxic chemicals to the environment
- Coverage 1995 to 2001
- Over 480,000 records
- **Basic Search** screen allows limit by years, facility name and location
- Browse the Index option is also available



Results display in brief format with the facilities and chemical list



Calculate Release summarizes the total amount released

TRI Calculation Results

	Environmental Release	Pounds
Calculate	Total Air Release	73,106
Release!	Total Water Release	499
Save Checked Items	Total Underground Injection Release	0
Sort	Total Land Release	0
	Total Environmental Release	73,605
Details	Off-Site Waste Transfer	Pounds
History	Total Publicly Owned Treatment Works Transfer	0
Download	Total Other Off-Site Locations Transfer	3,570,297
Modify Search	Total Off-Site Waste Transfer	3,570,297
woully Search	Total Environmental Release and Off-Site Waste Transfer	3,643,902
New Search		
Browse Index		
Help		
TOXNET Home		

ChemIDplus

- From NLM
- Structure and name file used for the identification of chemical substances
- Contains over 368,000 chemical records
- Structural Data for over 177,000 records
- Search options include Basic and Advanced Search

Basic Search

Yields a list of results from different sources



- The Basic Information buttons on the left of the results allows you to access the ChemID*plus* Full Record, or a specific portion of the record, such as Names & Synonyms, Formulas, Classification Codes, Registry Numbers, and Notes
- The Search Navigation button on the right allow you to go back to a basic search (Main Query Page) or to the advanced search (Advanced ChemIDplus Search)
- The middle of the results pages lists the **Locators** where further information on the chemical is found
- The **File Locators** point to NLM associated databases

File Locator	
CANCERLIT	i NCI CANCER LITerature
CCRIS	i NCI Chem Carcinogenesis Res Info System
DART/ETIC	Developmental and Reproductive Toxicology
DSL	i Domestic Substances List of Canada
EINECS	i EU Inv of Existing Commercial Chem Sub
EMIC	i Environmental Mutagen Information Center
<u>GENETOX</u>	i EPA GENetic TOXicology
HSDB	🚺 Hazardous Substances Data Bank
Haz-Map	Occupational exposure to hazardous agents
IRIS	i EPA Integrated Risk Information System
MEDLINE	☑ MEDical literature onLINE
MESH .	i Medical Subject Headings File
MESH HEADING	i Medical Subject Headings
RTECS	Registry of Toxic Effects of Chemical Substances
TOXLINE Core	INLM TOXLINE Core from MEDLINE
TOXLINE Special	I NLM TOXLINE Special on TOXNET
TRI2000	i EPA Toxics Release Inventory 2000
TRI2001	i EPA Toxics Release Inventory 2001
TRI95	i EPA Toxics Release Inventory 1995

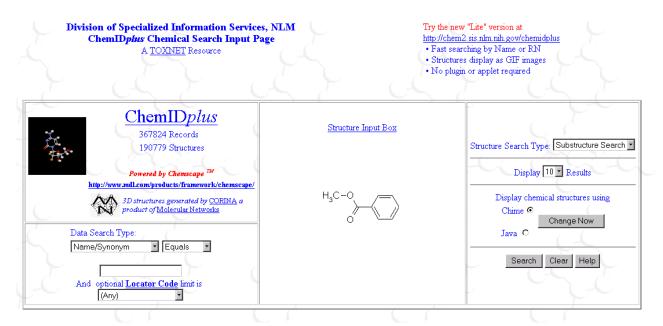
- Internet Locators link to web resources containing biomedical data
- Superlist Locators link to regulatory and scientific lists

Internet Locator	
ATSDR PHSs	ATSDR Public Health Statements
ATSDR TOXFAQS	i ATSDR ToxFAQS
ATSDR Tox Profiles	i ATSDR Toxicological Profiles
EPA CRS	i EPA Substance Registry System
EPA Envirofacts	i EPA Master Chemical Integrator
NIOSH ICSC	i NIOSH International Chemical Safety Cards
NIOSH Pocket Guide	i NIOSH Pocket Guide to Chemical Hazards
NIST WebBook	■ NIST Chemistry WebBook
NJ-HSFS	i New Jersey Hazardous Substance Fact Sheets
Superlist Locator	
DOT	i DOT Hazardous Materials
IARC	i International Agency for Research on Cancer
MA	i Massachusetts Right-to-know Substances
<u>MI</u>	🗓 Michigan Critical Materials Register
NJ	New Jersey Right-to-know Substances
PA	i Pennsylvania Right-to-know Substances
PEL	i OSHA Toxic and Hazardous Substances
PELS	i OSHA Toxic and Hazardous Substances, 1989
REL	i NIOSH Recommended Exposure Limits
RQ	i CERCLA Reportable Quantities
<u>S110</u>	i ATSDR Priority List of hazardous substances
TLV	i ACGIH Threshold Limit Values
TRI	i EPA Toxics Release Inventory
<u>VVHMI</u>	i Workplace Hazardous Materials Information

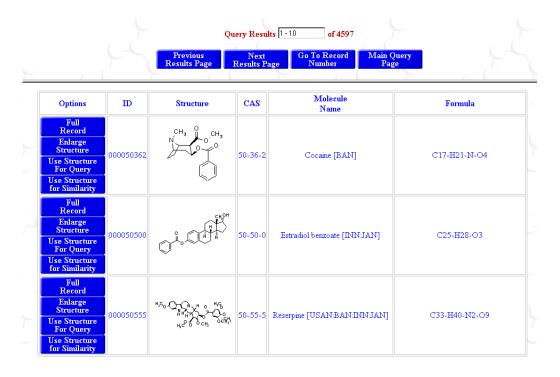
- The ${\bf i}$ button gives you more information about the Locator
- To view the results in any Locator, click on its name

Advanced ChemIDplus Search

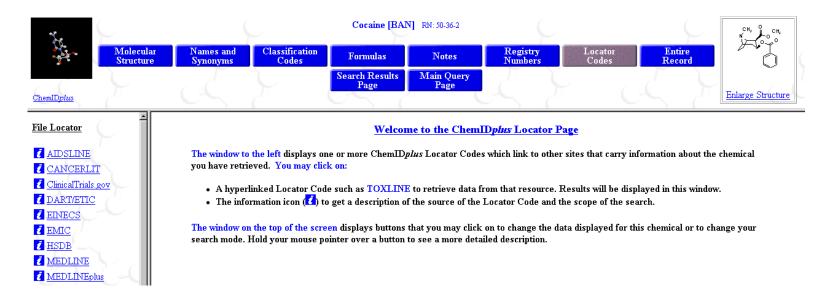
- To do structure searches, use Advanced Search
- You must download two free plug-ins from MDL
 (http://www.mdl.com/index.jsp) called MDL® Chime and MDL® ISIS/Draw that will allow you to draw and move the chemical structure



• A structure search yields a list of chemicals which have similar structures



 A full record page includes all information and links available in the basic search with the addition of the **Molecular Structure** button



 Molecular Structure allows you to use the selected structure to run another query

